

Hydro-Electric Power for the Farm

Special Interview with Sir Adam Beck on Uses and Development of Electricity in Rural Districts

THE election of a Farmer-Labor Government has raised the question: What is to be the future relationship of the Hydro-Electric Interests and of the organized farmers of Ontario? For over an hour some weeks ago, Hon. Adam Beck addressed the recently elected U.F.O. members of the Ontario Legislature on matters relating to the Hydro-Electric interests. So alluring and interesting was the picture he drew, not only of what has been accomplished, but of what he hopes the development of the water powers of the province must yet mean for the improvement of conditions throughout the rural sections, that he was given an ovation on concluding his remarks. Thus, the U.F.O. men in the Ontario Legislature showed that they are prepared to get behind this great enterprise and promote its continued development in the interests of the people of Ontario.

Last year farmers in Ontario, where two or more farms to the mile used electricity, obtained hydro-electric power at \$8 or \$9 a month, or about \$108 a year. Farmers who have used this power testify

constantly to its cheapness and efficiency. Because of this fact and of the general interest that is now being taken in the power question, Farm and Dairy secured a special interview early this month with Sir Adam Beck, the chairman of the Hydro-Electric Power Commission of Ontario, on the uses and development of hydro-electric power throughout the province.

Demand for Power Increasing

"Although the use of electricity on the farm is only in its infancy," said Sir Adam, "it is bound soon to become a necessary and common accessory to successful farming throughout Ontario. The rising cost of coal, gasoline and labor on the farm is causing, and will continue to cause, a constantly increasing demand for electric power. The great advantages of electricity on the farm and in the household are fully appreciated by farmers.

"Requests for information and applications for hydro-electric power from rural municipalities are coming to the Commission constantly. Farmers are carrying by-laws — practically unanimously in the rural districts, just as has been done in towns and cities. Pickering township carried the by-law by a vote of 11 to 1. The need for cheap power in agricultural and domestic operations is just as evident and important as in industrial enterprises and railway operation. The adoption of hydro-electric power means service at cost."

Electricity on Dairy Farms

Electric energy supplants coal, gasoline and other forms of energy for every purpose, excepting heat, and even for heat to a moderate extent, according to Sir Adam. It lends itself very favorably to the needs of the farmers in dairy districts. Many farmers who have used gasoline en-



Farm Service Transformers (at top of pole) "Step Down" the high Distributing Voltage to a Safe Voltage for Handling on the Farm. Barn and dairy house on farm of William Jull, Norwich.

gines have discarded them. For lighting and for heating water in the dairy, for churning, for pumping water, for filling silos, chopping feed, threshing grain, for the cutting of wood, and so forth, and for lighting and doing cooking, washing and ironing in the house, no power is more efficient and none so cheap.

The coal situation was cited as a good argument in favor of using electric power. "The province of Ontario has no known coal supply," Sir Adam pointed out. "We are dependent upon the East and the West for Canadian coal, and that virtually means that we are dependent entirely upon the United States for our supply. Electricity developed by water power is cheaper than coal, cheaper than coal was previous to the increased cost of coal. Hydro-electric power adequately supercedes coal and costs very little. I expect to see its use in Ontario, province-wide, all-reaching, general."

Commission Acts as Trustees

The Hydro-Electric Power Commission of Ontario is the largest corporation in the world transmitting and distributing electrical energy. But the Commission has no power to expand or borrow money, or to undertake the construction of any works without an order-in-council from the Provincial Government. In this respect, it is entirely under the control of the Government. In the words of Sir Adam Beck: "The Commission acts as trustees in behalf of the Government and the municipalities to prepare estimates on, to construct and to operate hydro-electric systems and hydro-electric railway systems." The municipalities are under the control of the Commission and cannot issue

debentures or undertake any work in connection with hydro-electric matters without the approval of the Commission. Municipalities that undertake such projects assume the whole liability. The power users are charged a sufficient amount to take care of the total cost of power.

Rates Constantly Reduced

The Commission has control over the fixing and standardization of rates charged by the municipalities. The average price of power, or cost of power, delivered to municipalities, stepped down, ready for distribution is \$18 a horsepower. Rates constantly are reduced, owing to surplus earnings becoming so large as to necessitate a rate reduction. The use of hydro-electric power reduces the cost of living. An illustration was given in the case of the city of Galt, where it was estimated that the saving to users of electricity, by reduction of rates, was sufficient to pay their taxes.

On being asked why he considered it good economics for the water powers of the province to belong to, and be under the control of, the people, Sir Adam said, "because the people demand it, and it is only right that the water powers and natural resources of the country should be developed and administered for the good of the common people of the country." Many benefits have accrued to the country from the water powers used to develop hydro-electric power. In Sir Adam Beck's words:

For the Good of the People

"We have reduced by six million tons or more per annum the consumption of bituminous coal in the province of Ontario. We have reduced the freight haul on all this coal (the use of cars to haul the coal), and to a large extent eliminated the obnoxious smoke that is created by the use of coal for manufacturing purposes in towns and villages. Electric power has been made available to every community, small or large, from a township to the largest city, conditional only on its being prepared to make a contract with the Commission and assume the liability that accrues on account of such an undertaking. There is no discrimination. The small user buys electricity at the same price as the large user. There is a standard rate in every community which applies whether you use 10 horsepower or 10,000 horsepower. In the case of domestic users, the small consumer buys it



Hydro-Electric Power May be Put to Countless Uses on the Farm, From Chopping Feed to Sawing Wood or Milking Cows.

Portable motor and grinder in barn on farm of James Innis, Woodstock.

for less than the large user. There is no such thing as a flat rate to any consumer. When we took over some of the companies we found that there were some individuals in a community that got a very much lower rate for power than others. We found that the large user got power at a low price and the small user had to pay four or more times as much as the large user paid. We wanted to encourage the wagonmaker, the blacksmith and the industry that might use a small amount of power, so we fixed an equitable, fair and just rate for all users."

Hydro-Radials and the Farmer

That the development of hydro-electric radials throughout the province would be in the interests of the farmers was emphasized by Sir Adam Beck. "Hydro-electric radials," he said, "mean quicker and more frequent transportation and low rates. They mean reduced freight, package, express and passenger rates. In addition, they furnish a local and frequent service that trunk lines, steam and electric, do not provide."

The construction of radials is limited to districts where hydro-electric power is available, "but," according to Sir Adam, "when worked together, that is, the joint distribution of electric power with the operation of a railway reduces the price of power from \$5 to \$15 per horsepower to users." The radials themselves will not supply power to the farmers, but the general system will be available, in these cases, as in others, for supplying all the power demanded.

"The cost of hydro-electric power on the farm depends entirely upon the demand," said Sir Adam. The larger the demand in any locality the lower the rate. The Commission builds and finances all the main transmission systems in a township. The township installs the transformer and meters and makes the connections to farmers who are not more

than 120 feet away from the main line. The farmer pays for his own wiring, motor, and connections. In some cases, the farmer pays outright for his connection with the township system. If he is well back on the farm, or a considerable distance off the main line of wire, he has to pay more, of course, than the man whose house and barns are immediately adjacent to the line.

In the case of a barn that is 600 feet and a house that is 300 feet from the pole line on the road, the wiring connections could be so arranged as to cost, it is estimated, \$46, giving light and power service. Ten lights in the house, on two switches, would cost for wiring \$30; wiring for six lights in the barn, wires in piping, \$40.50; wiring for one light for lighting yard, \$3; service entrance, \$5; 17 lamps, \$4.25; total, \$128.75. These figures are given to illustrate approximate cost. Each particular farm is a case in itself. The cost of power is made up of service charges and consumption charges, the former according to number of consumers per mile, as, for instance, \$2 a month when used by five consumers per mile, and the latter according to actual amount of electricity used as registered by the meter.

Cost Depends on Demand

To arrange for obtaining hydro-electric power in rural districts, a petition must first be signed by those wishing the power and submitted to the Township Council, who will forward it to the Commission, together with a map of the township on which the places of the petitioners have been located. Full particulars regarding method of procedure may be secured on application to the Commission. The building of lines where the number of customers averages less than three per mile, is not recommended, excepting under special conditions. As Sir Adam said: "The cost depends entirely upon the demand."—A. B. C.

Hydrogen Sulfide

of water

at 100°C

100 100 100

